

TWO NEW NONDIASPINE COCCIDAE FROM BORNEO AND MALAYA (HOMOPTERA)

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ONE FIGURE

(Received November 15, 1939)

Ceroplastes milleri new species

Adult female.—Waxy covering white, a little shining, thick, highly convex, on the upper part narrowed towards the truncate apex of dorsum, concave at the apex of dorsum, with about 8 large divisions on the basal part, and with 2 pairs of short lateral projections on the basal margin, about 11 mm. high, about 12 mm. in diameter. Body like that of *Ceroplastes ceriferus* And., convex dorsally, membraneous on the derm, with a long sclerotised caudal projection which is about 2.6 times as long as wide and a little widened basally. Head rather narrowly sclerotised on the anterior marginal area, with numerous circular pores, which are larger and denser anteriorly; the group of the pores not reaching the antennae. Antennae slender, distinctly longer than the fore tibia and tarsus taken together, 7-segmented; the 1st segment with a long and 2 shorter setae; the 2nd with a very long seta near the apex; the 3rd about 1.6 times or twice as long as wide; the 4th with 2 setae near the apex, one of which is very long and longer than the segment; the 5th and 6th somewhat longer than wide, with a seta near the apex; the 7th with some long setae, of which 2 distal ones are longer and an apical one is the longest; relative lengths of the 2nd and the following segments about as follows: II—9, III—10, IV—14, V—4, VI—4, VII—10. Fore legs: coxae and trochanters with a very long seta, that on the trochanter as long as the tibia; femora stout, about 2.5 times as long as wide, a little longer than the tibia, without setae; tibiae about 1.4 times as long as the tarsus; tarsi about 4 times as long as wide, a little longer than the capitate digitules; ungual digitules stout, distinctly expanded apically. Spiracles narrow on the stalk, very widely expanded abruptly at the end. Stigmatic

clefts a little sclerotised, almost as in *Vinsonia magnifica* Green in structure, with a cluster of numerous small sub-globular spines surrounded by a series of larger conical spines, which conical spines are pointed at the tip, slender, not narrowed basally and about 20 in number; about 5 fusiform spines sometimes present on the margin, which are a little shorter than the conical spines. Marginal setae simple, short, thin, curved, sparse, arranged in a row, and nearly as long as the conical spines of stigmatic clefts. Caudal projection about 3.3 mm. long.

Habitat—Borneo: Mt. Matang, Sarawak.

A single specimen was taken on an unknown plant by Dr. N. C. E. Miller. This species is closely related to the Coccid described as *Vinsonia magnifica* Green from Sumatra (Tijd. v. Ent., LXXIII, p. 290), the stigmatic clefts being similar in structure, but differs from it in the shape of the waxy covering, the longer caudal projection, and in the long spines surrounding the cluster of small sub-globular ones of the stigmatic clefts being conical and not narrowed basally. The genus *Vinsonia* Signt. does not differ from *Ceroplastes* Gray in major morphological characters and may be a synonym of the latter.

Phenacoccus nephelii new species

Adult female—Body broad, broadest at about the middle, about 1.25 times as long as wide in specimens mounted on slides, narrower anteriorly. Eyes much wider than high, slightly larger in diameter than the width of the 2nd antennal segment; 4 or 5 circular, or sometimes oval, large pores present in a group laterad of and adjacent to each eye; derm slightly sclerotised laterad of each eye. Antennae shorter than the fore legs, but slightly longer than the space between themselves, 9-segmented, with some setae, which are nearly as long as the width of the 3rd segment; the 3rd segment twice as long as wide; the 4th nearly as long as wide; the 5th with 3 setae; the 7th and 8th slightly narrowed towards the base, with a stout seta; the 9th twice as long as wide, with 2 stout setae; relative lengths of the segments about as follows: II—9, III—10, IV—5, V—6, VI—6, VII—8, VIII—8, IX—10. Rostrum tapering, 2-segmented, the distal segment much longer than the basal, about twice as long as wide, pointed; rostral loop very long. Spiracles normal, the posterior pair larger. Legs very short; hind coxae rounded near the base of lateral side, much wider than long, without distinct pores; hind femora stout, about 2.5 times

as long as wide, a little shorter than the tibia and tarsus taken together, with over 12 setae, which are much shorter than the width of femora; hind tibiae 4 times as long as wide, about 1.5 times as long as the tarsus, with some setae, which are a little shorter than the width of tibiae; tarsal digitules long, thin, very slightly capitate; claws without denticles, with distinctly capitate digitules. Dorsal ostioles well developed, but rather small, with many minute pores rather densely crowded near each margin;



Fig. 1. *Phenacoccus nephelii* n. sp.

Adult female.

- (1) Venter of anal lobe. (2) Dorsum of anal lobe.
(3) Cerarius. (4) Eye and its adjacent part. (5)
Hind leg. (6) Antenna.

4 or 5 minute simple spine-like setae present among the pores, which setae are similar to other dorsal ones. Ventral cicatrix large. Anal ring narrower than the anal lobes, with 6 long setae, which are as stout as, but about half the length of, the setae of anal lobes. Anal lobes prominently protruding, widely sclerotised on the venter, with 8-10 large circular pores on the dorsum, especially on the distal part; the ventral sclerotised part longer than wide, with about 10 long fine setae, and a few minute pores on the anterior part. 36 cerarii present along the whole margin, which are not well defined, not sclerotised, and a pair between the antennae; the last cerarii with 2

small slender conical spines and many minute pores, lacking setae; other cerarii slightly protruding, with no setae, but with 2 slender conical spines and many minute pores scattered; the spines pointed, small, stiff, not filiform on the distal part, subequal in length, 3 in number in the foremost pair. Numerous minute triangular pores scattered over the whole surface, more densely along the margin between the cerarii. Larger circular pores present on the whole surface, very sparse on the median areas of both sides of abdomen, those

near the eyes and on the anal lobes larger; very few large circular genacerores present around the genital opening. About 14 short stout tubular ducts present in a group near the penultimate cerarius on the venter, about 6 similar ones near the preceding cerarius, and a few along the margin; the tubular ducts longer than wide, not protruding, as long as the dorsal spine-like setae, slightly smaller in diameter than the circular pores, sometimes constricted at the middle. Dorsal setae minute or very short, spine-like, conical, slender, thin on the apex, pointed, stiff, shorter than the cerarian spines, sparsely scattered; a few similar setae present along the margin, which are sometimes longer. Ventral setae many, short, simple, fine, sometimes curved, longer than the dorsal ones, those between the antennae much longer, but mostly shorter than the 3rd antennal segment. Body 3.0–3.2 mm. long.

Habitat—Malaya: Serdang.

Some specimens were obtained on *Nephelium lappaceum*, on July 19, 1938, by the Division of Entomology, Department of Agriculture of the Federated Malay States.

This species is characterised by the minute spine-like dorsal setae, the absence of denticles on the claws, the anal lobes prominently protruding and widely sclerotised, the crowded minute pores on the marginal parts of ostioles, and by the very few circular pores around genital opening, as well as by the presence of large pores in a group laterad of the eye.

The type-specimens of both the species described above are in the author's possession.